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MSW LANDFILL ROUTINE COMPLIANCE ITEMS FOR STORMWATER AND AIR

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Josh Haar, PE - *Senior Consultant*
Lina Luo - *Consultant*

Agenda

- Introduction
- MSW Landfill Day-to-Day Compliance with General Stormwater NPDES Permit
- MSW Landfill Typical Stormwater Best Management Practices
- MSW Landfill Air Compliance Pitfalls

MSW Landfill Day-to-Day Stormwater Compliance Requirements

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MSW Landfill Stormwater Compliance (Permit Renewals)

Tennessee Multi-Sector General Permit expires April 14, 2020.

Georgia Multi-Sector General Permit expires June 1, 2022.

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MSW Landfill Stormwater Compliance (Routine Compliance)

- Routine Facility Inspections
- Quarterly Visual Inspections of Stormwater
- Annual Comprehensive Site Inspection
- Annual Employee Training
- Annual DMRs / Annual Reports
- Benchmark/Effluent/Impaired Stream

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MSW Landfill Stormwater Compliance (Routine Compliance)

- Annual Benchmark Monitoring (Georgia)

Table 8.L-1		
Subsector (Permittees may be subject to requirements for more than one sector/subsector)	**Parameter**	**Benchmark Monitoring Concentration**[1]
Subsector L1. All Landfills, Land Application Sites, and Open Dumps	Total Suspended Solids (TSS)	100 mg/L

[1]Benchmark monitoring required only for discharges not subject to effluent limitations in 40 CFR Part 445 Subpart B (see Table L-2 below).

MSW Landfill Stormwater Compliance (Routine Compliance)

- Annual Benchmark Monitoring (Tennessee)

Table L-2. Benchmark Monitoring Requirements for Landfills and Land Application Sites

Pollutants of Concern	Benchmark [mg/L]
Total Suspended Solids (TSS)[i]	150
Total Recoverable Iron[ii]	5
Total Recoverable Aluminum[iii]	0.75
Total Recoverable Magnesium[iii]	0.064

i) Applicable to all landfill and land application sites.
ii) Applicable to all facilities except Municipal Solid Waste Landfill areas closed in accordance with 40 CFR 258.60 requirements.
iii) Applicable only to Municipal Solid Waste Landfill areas closed in accordance with 40 CFR 258.60 requirements.

MSW Landfill Stormwater Compliance (Routine Compliance)

- Annual Effluent Monitoring (Georgia/Tennessee)

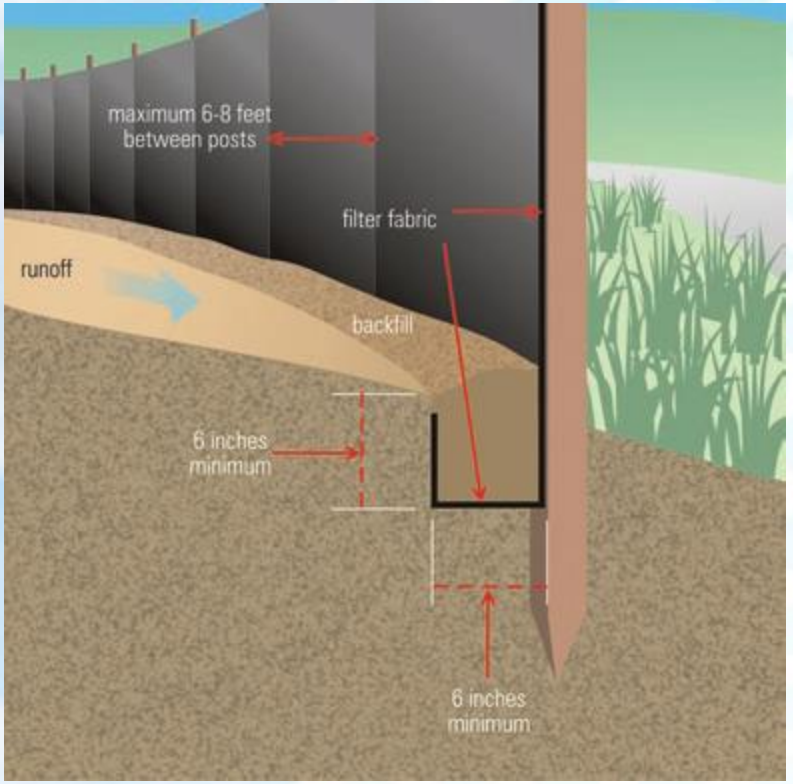
Effluent Characteristics	Effluent Limitations (mg/L)	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed
Ammonia	10	4.9
Alpha Terpineol	0.033	0.016
Benzoic Acid	0.12	0.071
Biochemical Oxygen Demand (BOD_5)	140	37
p-Cresol	0.025	0.014
pH	Within the range of 6.0 to 9.0	
Phenol	0.026	0.015
Total Suspended Solids (TSS)	88	27
Zinc (Total)	0.20	0.11

MSW Landfill Typical Stormwater Best Management Practices (BMP)

MSW Landfill Stormwater BMPs

- Divert Run-On

- Silt Fence/Hay Bales



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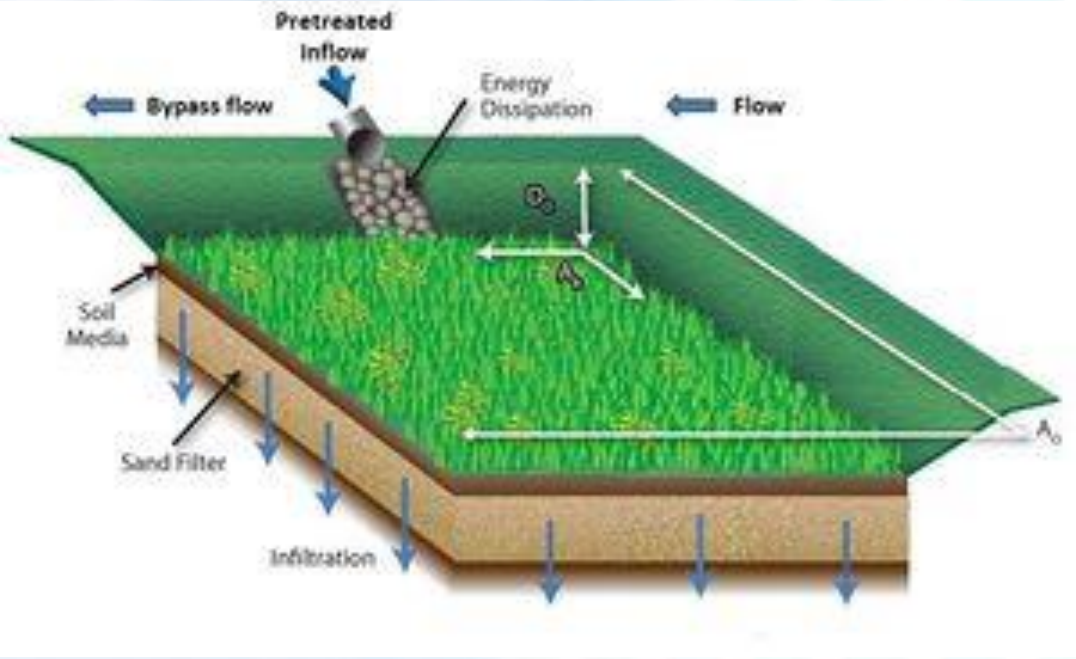
MSW Landfill Stormwater BMPs

- Rock Check Dams

MSW Landfill Stormwater BMPs

- Catch Basins/Infiltration Basins
- Grass Filters



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MSW Landfill Stormwater Compliance

- Increase in local municipalities and state agencies inspecting all types of industrial/commercial facilities
- Increased focus on erosion control and stream impairments due to sedimentation
- Ensure that your Stormwater Pollution Prevention Plan is up-to-date.

MSW Landfill Air Compliance Pitfalls

MSW Landfill Air Compliance

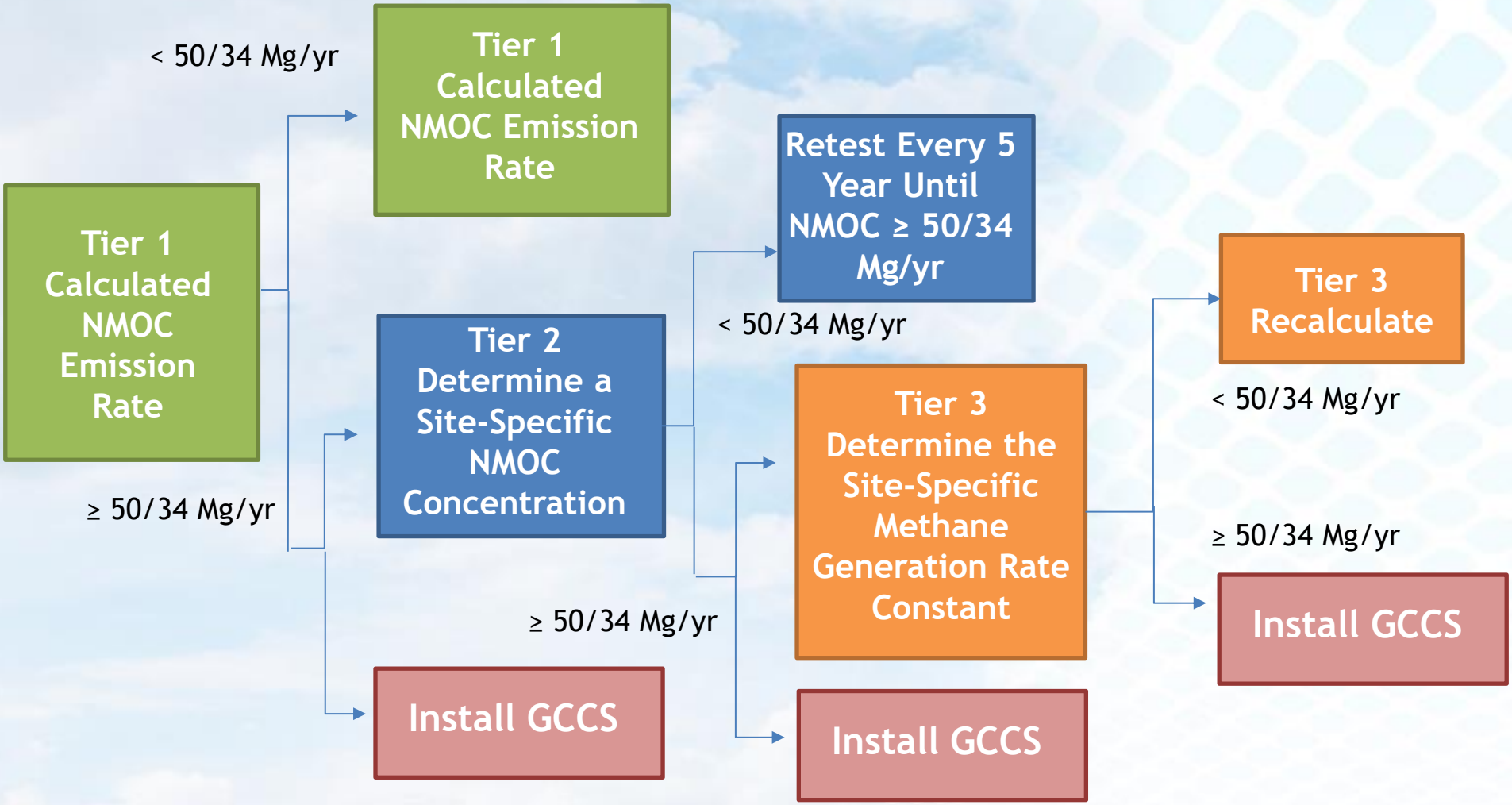
- Summary of Discussion
  - Monthly wellhead monitor
  - Quarterly surface methane monitor
  - Flare data evaluation

MSW Landfill Air Compliance

MSW landfills are required to install and run a gas collection and control system (GCCS) within 30 months after landfill gas non-methane organic compounds (NMOC) emissions reach:

- 50 megagrams per year (NSPS Subpart WWW)
- 34 megagrams per year (NSPS Subpart XXX)
- 34 megagrams per year or 50 megagrams per year for closed MSW landfill (NSPS Subpart Cf)

MSW Landfill Air Compliance



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MSW Landfill GCCS Compliance

Gas collection is required for areas (cells) with solid waste in place for:

- 5 years or more if active; or
- 2 years or more if closed or at final grade

MSW Landfill GCCS Compliance

- Each wellhead shall be operated at:
  - **Negative** pressure
  - Temperature **less than** 55°C (131°F)
  - Either a nitrogen level **less than** 20% or an oxygen level **less than** 5%
- Each wellhead is required to be monitored monthly

Action Required Upon Identification of Exceedance

- Within 5 calendar days – Initiate corrective action
  - Even if the exceedance ends by luck
  - Example: Initial oxygen reading is 5.1%, adjusted reading is 4.9%, but there was no adjustment, just some fluctuation. Corrective action is still required.
- Within 15 calendar days – An alternative timeline for correcting the exceedance may be submitted to the state for approval (up to 120 days of exceedance)
- Corrective action is required after any noncompliant reading
  - Even if the reading is an extra reading

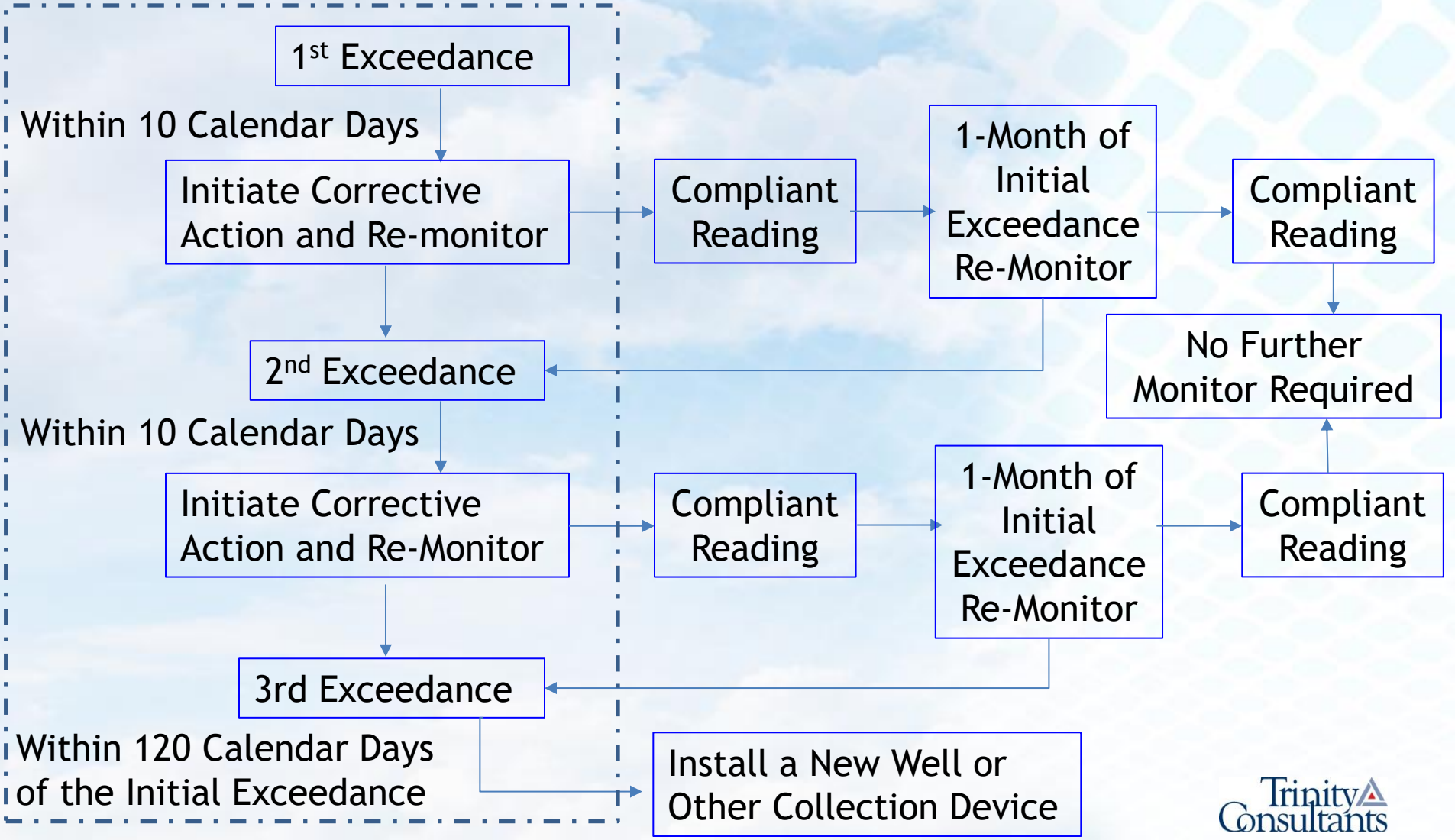
Situation Not Considered Exceedance

- Non-negative pressure to control a fire or increased well temperature
- Non-negative pressure when using of a geomembrane or synthetic cover
- A decommissioned well
- A higher operating value approved by the Administrator

Surface Methane Compliance Demonstration

- Surface methane concentration less than 500 parts per million (ppm)
- Surface methane concentration is required to be monitored quarterly
  - Monitoring can be reduced to annually if no exceedance in three consecutive quarterly monitoring periods for closed MSW landfill

Surface Methane Compliance Demonstration



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Compliance of Collected Gas

All collected gas shall be routed to:

- An open flare; or
- A control system designed and operated to reduce NMOC by 98 weight-percent; or
- A treatment system that processes the collected gas for subsequent sale or beneficial use

Compliance of Collected Gas

The following periods are required to be reported:

- Gas stream is diverted from the control device through a bypass line
- Control device was not operating for a period exceeding 1 consecutive hour
- Collection system was not operating in excess of 5 consecutive days

Challenges of Evaluating Flare Data

- Flow meter records the flow to the control device at least every 15 minutes
  - Data size can be extremely large
- Flow meter itself does not tell whether the gas is combusted or not – need to look at the operating status of flare and flow information together
  - Difficult without good documentation from the facility

MSW Landfill Air Compliance

- Summary of Discussion
  - Monthly wellhead monitor
    - 0 Vacuum, 131 F, 5% Oxygen are exceedances
    - Take corrective actions within 5 days of any non-compliant reading
  - Quarterly surface methane monitor
    - Follow the flow chart for corrective actions
  - Flare data evaluation
    - Have good documentation of the operation of flares

Questions & Discussion

Trinity Consultants
3495 Piedmont Road
Building 10, Suite 905
Atlanta, GA 30305
(678) 441-9977

Presenter:

- Josh Haar, PE
  - JHaar@trinityconsultants.com
- Lina Luo
  - lluo@trinityconsultants.com

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